**Standards**

**2.1.A2.F:** Understand the concepts of exponential and logarithmic forms and use the inverse relationships between exponential and logarithmic expression to determine unknown quantities in equations.

**2.6.A2.C:** Construct a line of best fit and calculate its equation for linear and non linear two-variable data.

**2.8.A2.B:** Evaluate and simplify algebraic expressions, for example: products/quotients of polynomials, logarithmic expressions and complex fractions; and solve and graph linear, quadratic, exponential and logarithmic equations and inequalities, and solve and graph systems of equations and inequalities.

**2.8.A2.D:** Demonstrate an understanding and apply properties of functions (domain, range, inverses) and characteristics of families of functions (linear, polynomial, rational, exponential, logarithmic).

**2.8.A2.E:** Use combinations of symbols and numbers to create expressions, equations, and inequalities in two or more variables, systems of equations and inequalities, and functional relationships that model problem situations.

**2.8.A2.F:** Interpret the results of solving equations, inequalities, systems of equations, and systems of inequalities in the context of the situation that motivated the model.

**2.11.A2.B**: Analyze and interpret rates of growth/decay.

**Assessment Anchors and Eligible Content**

**A2.1.2 Non‐Linear Expressions**

**A2.1.2.1** Use exponents, roots, and/or absolute values to represent equivalent forms or to solve problems.

**A2.1.2.1.4** Simplify or evaluate expressions involving logarithms and exponents (e.g., log28 = 3 or log42 = ½).

**A2.1.3 Non‐Linear Equations**

**A2.1.3.1** Write and/or solve non‐linear equations using various methods.

**A2.1.3.1.3** Write and/or solve a simple exponential or logarithmic equation (including common and natural logarithms).

**A2.1.3.1.4** Write, solve, and/or apply linear or exponential growth or decay (including problem situations).

**A2.2.1 Patterns, Relations, and Functions**

**A2.2.1.1** Analyze and/or use patterns or relations.

**A2.2.1.1.4** Identify and/or determine the characteristics of an exponential, quadratic, or polynomial function (e.g., intervals of increase/decrease, intercepts, zeros, and asymptotes).

**A2.2.2 Applications of Functions**

**A2.2.2.1** Create, interpret, and/or use polynomial, exponential, and/or logarithmic functions and their equations, graphs, or tables.

**A2.2.2.1.2** Create, interpret, and/or use the equation, graph, or table of an exponential or logarithmic function (including common and natural logarithms).

**A2.2.2.1.4** Translate a polynomial, exponential, or logarithmic function from one representation of a function to another (graph, table, and equation).

**Assessment Anchors and Eligible Content (continued)**

**A2.2.3 Data Analysis**

**A2.2.3.1** Analyze and/or interpret data on a scatter plot and/or use a scatter plot to make predictions.

**A2.2.3.1.1** Draw, identify, find, interpret, and/or write an equation for a regression model (lines and curves of best fit) for a scatter plot.

**A2.2.3.1.2** Make predictions using the equations or graphs of regression models (lines and curves of best fit) of scatter plots.

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